11 strangulations or dropping of ridges in the roof of the furnace.
The free height below such a strangulation should be

For an ascending roof, when a currrent of cold gases spreads over the hearth, all of these strangulations are useless.

As a general conclusion, it must be remembered that a descending roof results in a concentration of the hot gases in the front part of the heating chamber. An ascending roof causes the hot gases to flow to the rear of the furnace, and for this reason continuous reheating furnaces .are built with descending roofs. Furnaces for the uniform heating of long pieces of material W should be given ascending roofs.

XIX. TUNNEL FURNACES OR KILNS

Notwithstanding the fact that tunnel furnaces or kilns present attractive possibilities, they are used comparatively little, because,

FIG. 124.

owing to the irrational construction of those already in use, they

rarely work in a satisfactory manner.

Figure 124 is a longitudinal section of the Groendal furnace for curing briquets. The central portion of this kiln has a high roof which forms a combustion chamber within which the combustion of the producer gas occurs. This gas is brought to the chamber by the gas flue *0* across the roof of the kiln. The gas producer is operated with a blower. Air is supplied by a fan blower and flows to the kiln through the flue *P,* entering the kiln through ports in the roof, in the same manner as the gas. The hot gases in this kiln flow directly under the roof. In order

[C1)] For example, tube- or pipe-welding furnaces.